

INSTALLATION & OPERATING INSTRUCTIONS

DIGITAL TWIN CHANNEL PROGRAMMER

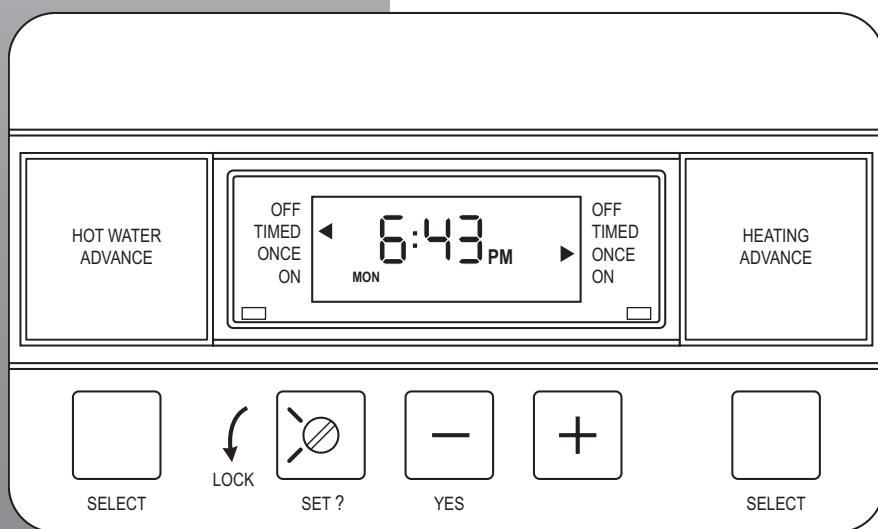
FOR USE WITH THE FOLLOWING STANDARD AND HIGH EFFICIENCY APPLIANCES:

HEATSLAVE 12/14, 15/19, 20/25, 26/32

DANESMOOR 12/14, 15/19, 20/25, 26/32, 32/50, 50/70

HIGHFLOW 3.5, 4.5, 400, 400 ELECTRONIC

GREENSTAR II HE 12/22



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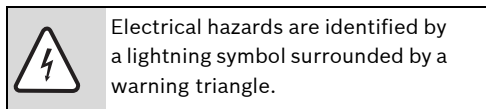
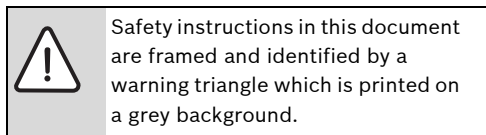
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1 SYMBOLS AND SAFETY PRECAUTIONS

1.1 EXPLANATION OF SYMBOLS

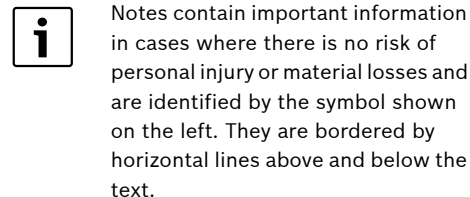
WARNING SYMBOLS



Signal words indicate the seriousness of the hazard in terms of the consequences of not following the safety instructions.

- **NOTICE** indicates possible damage to property or equipment, but where there is no risk of personal injury.
- **CAUTION** indicates possible personal injury.
- **WARNING** indicates possible severe personal injury.
- **DANGER** indicates possible risk of life.

IMPORTANT INFORMATION



ADDITIONAL SYMBOLS

Symbol	Meaning
▶	a step in an action sequence
→	a reference to a related part in the document or to other related documents
•	a list entry
–	a list entry (second level)

Tab. 1 Symbols

1.2 SAFETY PRECAUTIONS

IF YOU SMELL GAS:

- ▶ **DO NOT** SMOKE OR STRIKE MATCHES
 - ▶ **DO NOT** TURN ELECTRICAL SWITCHES ON OR OFF
 - ▶ PUT OUT NAKED FLAMES
 - ▶ OPEN DOORS AND WINDOWS
 - ▶ KEEP PEOPLE AWAY FROM THE AFFECTED AREA
 - ▶ TURN OFF THE CONTROL VALVE AT THE GAS METER
 - ▶ CALL YOUR GAS COMPANY
- OR**
- ▶ CALL THE EMERGENCY NUMBER 0800 111 999

APPLIANCE OPERATION

This equipment must only be operated by a responsible adult who has been instructed in, understands and is aware of the appliance's operating conditions and effects.

2 GENERAL INFORMATION

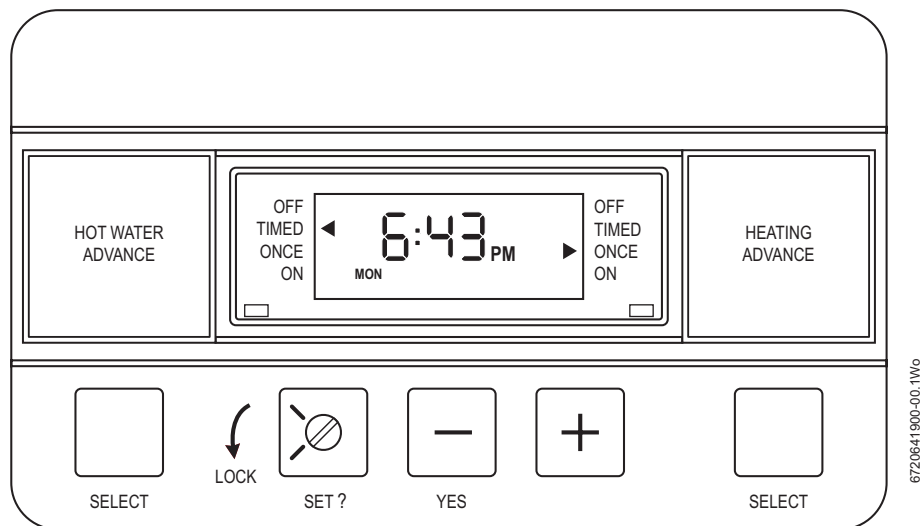


Fig. 1

SPECIFICATIONS

- Twin channel programmer for CH and DHW mounted into the boiler fascia
- Factory set date and time
- Automatic switch over to and from Day light savings time (GMT - BST)
- Seven day programmer
- Three ON/OFF periods per day
- Pre-programmed ON/OFF periods
- Dedicated advance buttons
- 12 hour digital display
- Holiday functions
- Pre-wired connector

TECHNICAL DATA

DESCRIPTION	UNITS	PROGRAMMER
Electrical supply	Volts a.c.	230
Ambient operating temperatures	°C	0 to +50
Humidity operating range	% non-condensing up to 45°	30 - 95
Class of protection		II
Degree of protection	IP	20
Battery back up: programme		Always
Battery back up: time		Always
Battery back up: display	hours	None
Shortest switching period	minutes	1
DHW & CH on/off periods	number/days	3
DHW & CH programmes	days	7

Tab. 2

3 FITTING THE PROGRAMMER



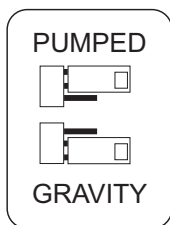
WARNING: Disconnect the electrical mains supply and turn off the gas supply before working on the appliance.



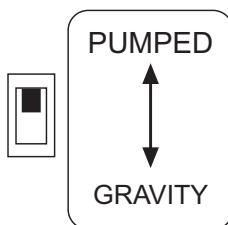
If you have a fully **PUMPED** and controlled system you can have central heating without hot water and vice versa.

A **GRAVITY** fed hot water system does not permit the heating to be on without the hot water, although it is possible to have the hot water without the heating.

- ▶ Before installing the programmer, set the selector switch or jumper to **PUMPED** or **GRAVITY** according to the type of system installed.



Selector



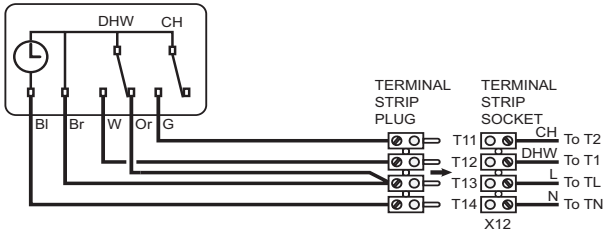
Switch

6720641900-53.1Wo

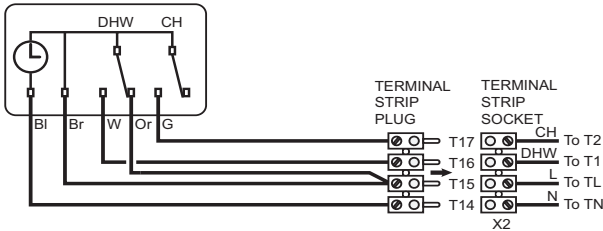
- ▶ Refer to the appliance manual to gain access to the rear of the fascia.
- ▶ Unplug the operating switch from the four way terminal block.
- ▶ Remove the four nut securing the operating switch mounting panel from the fascia.
- ▶ Fit the programmer in place of the switch mounting panel and secure with the four nuts.
- ▶ Fit the programmer connector into the four way terminal block, ensure that the plug-in connector is properly aligned before making the connection.

4 ELECTRICAL CONNECTIONS

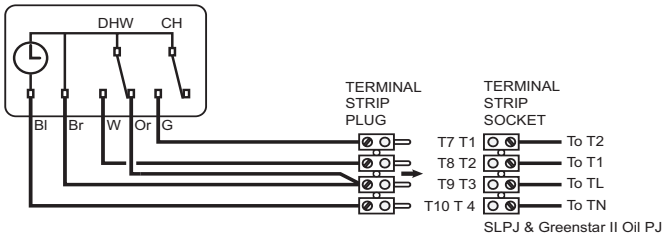
Highflow 400



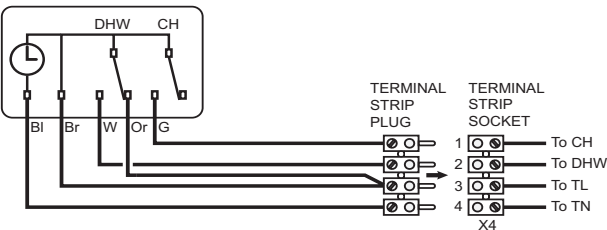
Highflow 400 Electronic



Danesmoor & Greenstar II Oil Boiler



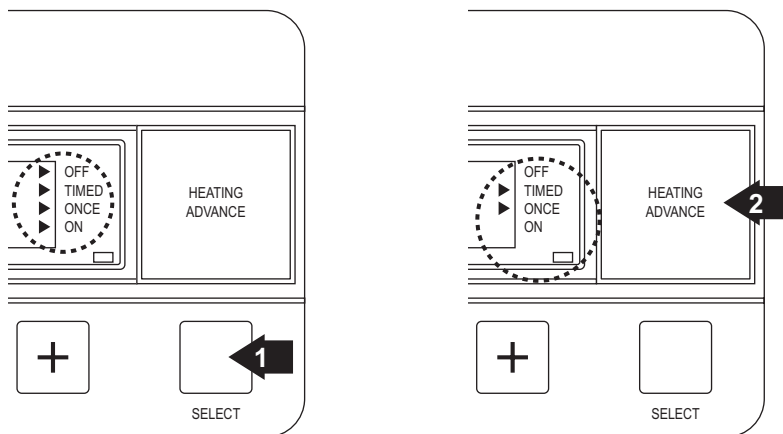
Oil Heatslave



6720641900-52.1W6

5 PROGRAMMER CONTROLS

5.1 CENTRAL HEATING



6720641900-01.1Wo

1. Press **SELECT** button to choose:

- ▶ **OFF** = constantly off
- ▶ **TIMED** = up to three **ON** and three **OFF** time periods as per programme
- ▶ **ONCE** = **ON** from first **ON** and **OFF** after the third **OFF** period
- ▶ **ON** = constantly on

2. Pressing the **ADVANCE** button:

- ▶ **CENTRAL HEATING** light comes on (heating stays on until next OFF period)

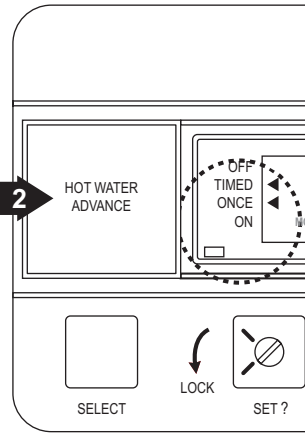
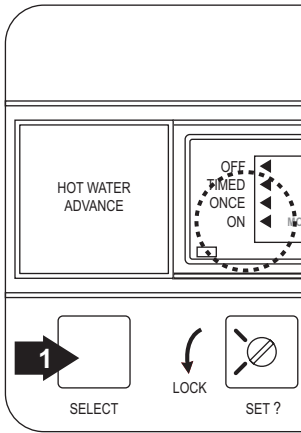
-or-

- ▶ **CENTRAL HEATING** light goes off (heating stays off until next ON period)



ADVANCE will not function with constant **ON** or **OFF** selected.

5.2 HOT WATER



6720641900-02.1W6

1. Press **SELECT** button to choose:

- ▶ **OFF** = constantly off
- ▶ **TIMED** = up to three **ON** and three **OFF** time periods as per programme
- ▶ **ONCE** = **ON** from first **ON** and **OFF** after the third **OFF** period
- ▶ **ON** = constantly on

2. Pressing the **ADVANCE** button:

- ▶ **HOT WATER** light comes on (hot water stays on until next OFF period)

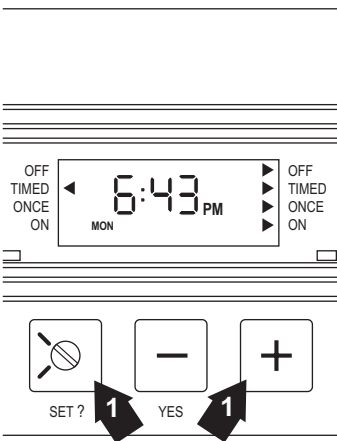
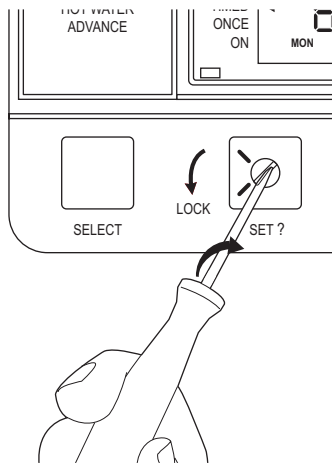
-or-

- ▶ **HOT WATER** light goes off (hot water stays off until next ON period)



ADVANCE will not function with constant **ON** or **OFF** selected.

5.3 PRE-SET PROGRAM



6720641900-03.1W6

If you need to restore the factory preset program times, shown in the table below, then:

- 1. Using a suitable screwdriver, turn the lock clockwise to release the **SET?** button
- 2. Press the **SET?** and **PLUS** buttons together to restore the default program times as shown in table 3.
- 3. Reset the lock to prevent any more alterations



Two **ON/OFF** periods can be used instead of three by setting the 2nd **ON/OFF** times to 12:00 as shown in the default table 3.
One **ON/OFF** period can be achieved by setting the 2nd and 3rd **ON/OFF** times to the same time.
See page 15 **SETTING PROGRAMS** if changes are required to the pre-programmed settings.

	1st	1st	2nd	2nd	3rd	3rd
	ON	OFF	ON	OFF	ON	OFF
	AM	AM	PM	PM	PM	PM
Central heating						
MON to FRI						
Time	6:30	8:30	12:00	12:00	4:30	10:30
SAT & SUN						
Time	7:00	9:00	12:00	12:00	4:00	11:00
Hot water						
MON to FRI						
Time	6:30	8:30	12:00	12:00	4:30	10:30
SAT & SUN						
Time	7:00	9:00	12:00	12:00	4:00	11:00

Tab. 3 Default program periods

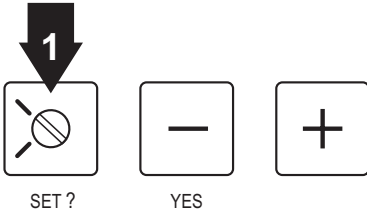
5.4 SETTING THE TIME



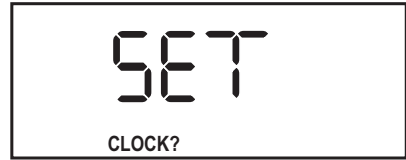
The time is preset and normally does not need to be adjusted. British Summer Time and GMT changes are automatically adjusted. Press **SET?** repeatedly to step through “Setting the time” to reach the next section.



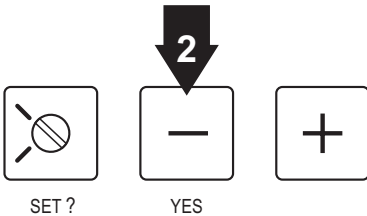
Ensure that the **SET?** button is unlocked before attempting any settings



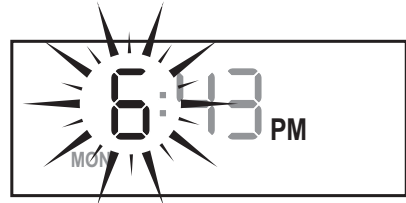
1. Press the **SET?** button to show **SET** and **CLOCK?** in the display.



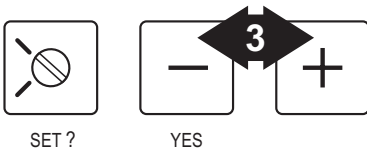
6720641900-04.1Wo



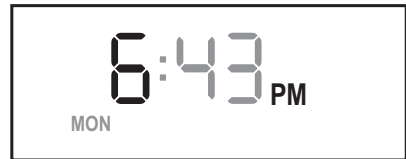
2. Press **YES** to display the time with the hours flashing.



6720641900-05.1Wo



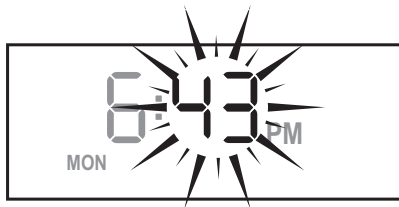
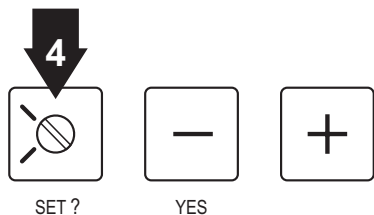
3. Press the **PLUS** or **MINUS** button to correct the hour, taking note of the AM or PM shown.



6720641900-06.1Wo

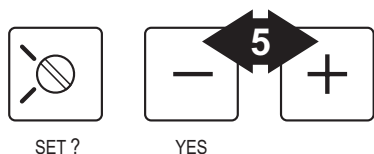


Hold down either the **PLUS** or **MINUS** button to speed up the display changes.



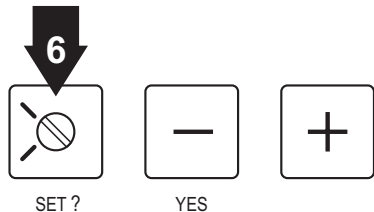
6720641900-07.1Wo

4. Press the **SET?** button to set the correct hour and then the minutes will flash.



6720641900-08.1Wo

5. Press the **PLUS** or **MINUS** button to correct the minutes.



6720641900-09.1Wo

6. Press the **SET?** button to set the correct minutes, **SET** and **DATE?** then appear in the display.



If you do not wish to change the date, press **SET?** until the normal display is resumed. Alternatively do not press any buttons and the display will revert to the normal display after two minutes.

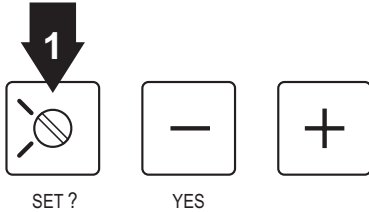
5.5 SETTING THE DATE



The date is preset and does not normally need to be changed. Press **SET?** repeatedly to step through “Setting the date” to reach the next section.



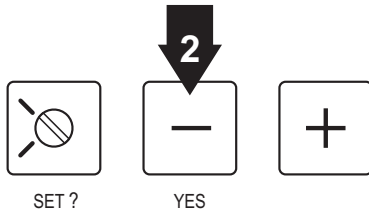
Ensure that the **SET?** button is unlocked before attempting any settings



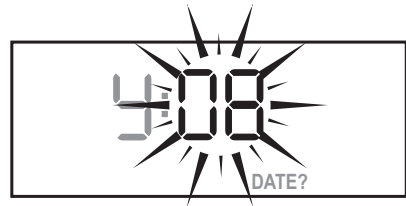
1. Press the **SET?** button to show **SET** and **DATE?** in the display.



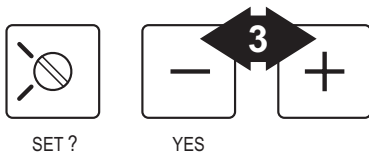
6720641900-10.1Wo



2. Press **YES** to display the date with the year flashing.



6720641900-11.1Wo



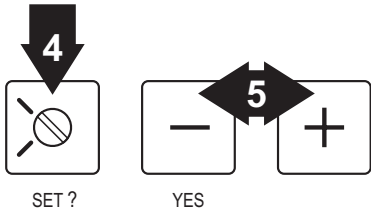
3. Press **PLUS** or **MINUS** to correct the year.



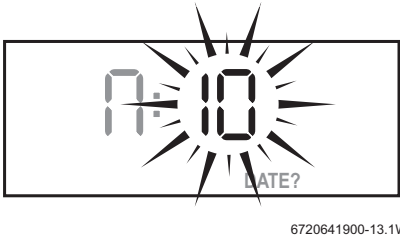
6720641900-12.1Wo



Hold down either the **PLUS** or **MINUS** button to speed up the display changes.

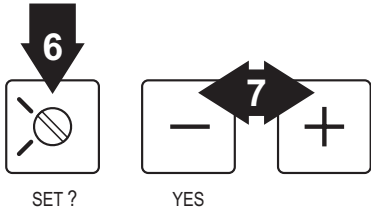


4. Press the **SET?** button to set the correct year and the month will flash on the display.

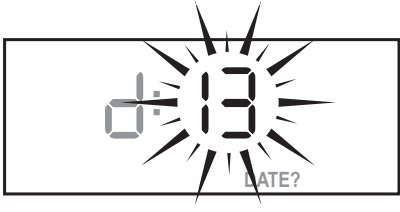


6720641900-13.1Wo

5. Press **PLUS** or **MINUS** to correct the month.

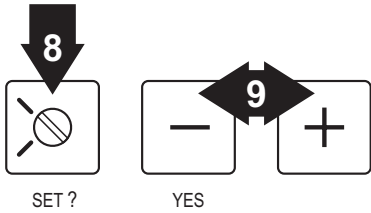


6. Press the **SET?** button to set the correct month and the day will flash on the display.



6720641900-14.1Wo

7. Press **PLUS** or **MINUS** to correct the day.



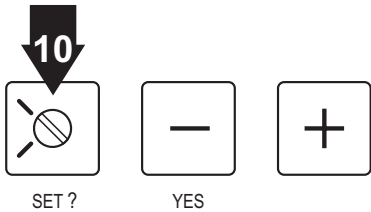
8. Press the **SET?** button to set the correct day and the current DLS status will start flashing.
9. Press **PLUS** or **MINUS** to turn **dLS** on or off.



6720641900-15.1Wo



British Summer Time and GMT time change are automatically adjusted if **dLS** is turned on.



10. Press **SET?** to return to normal operation.



6720641900-16.1Wo

5.6 SETTING THE PROGRAMS

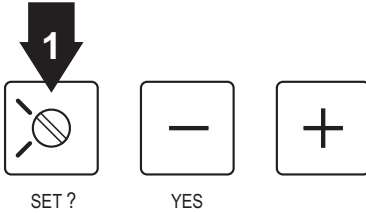


If you require different ON/OFF times during the week, refer to “Setting individual weekdays” on page 18.



Ensure that the **SET?** button is unlocked before attempting any settings

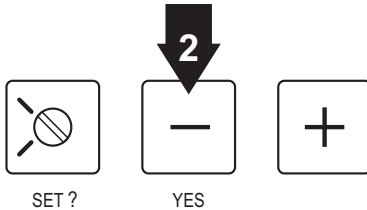
5.6.1 SETTING CH MON - FRI



1. Press **SET?** until **SET** and **PROG?** are shown on the display.



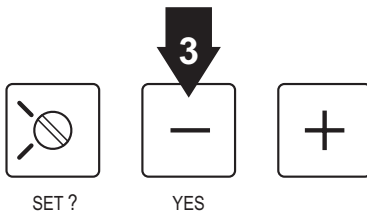
6720641900-17.1Wo



2. Press **YES** to enter program.



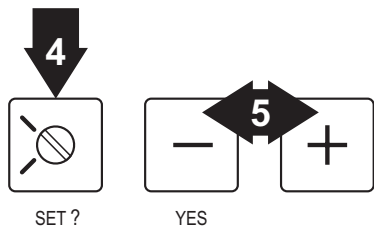
6720641900-18.1Wo



3. Press **YES** to select MON - FRI.



6720641900-19.1Wo



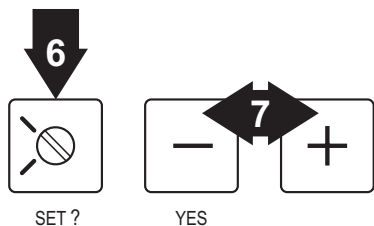
4. Press **YES** to select **CH**.
5. Press **PLUS** or **MINUS** to change the ON time.



6720641900-20.1Wo



Hold down either the **PLUS** or **MINUS** button to speed up the display changes.

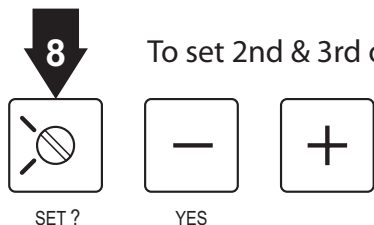


6. Press **SET?** to set the ON time and select the OFF time.



6720641900-21.1Wo

7. Press **PLUS** or **MINUS** to change the OFF time.



8. Press **SET?** to set the OFF time and select the next ON time.
Repeat operations 5 to 8 to set the 2nd and 3rd CH ON/OFF times.

To set 2nd & 3rd on/off times go back to



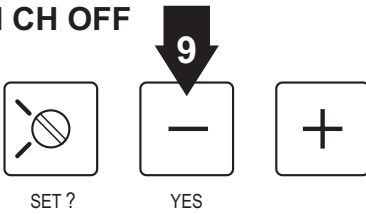
6720641900-22.1Wo



After pressing **SET?** for the 3rd CH OFF time the display shows **SET HW MON - FRI**.

5.6.2 SETTING HW MON - FRI

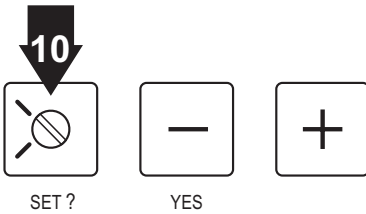
3rd CH OFF



9. Press **YES** to select the 1st ON time.



6720641900-23.1Wo



10. Press **SET?** to set the ON and OFF times as before.

Repeat operations 5 to 8 to set the 1st, 2nd and 3rd **HW ON/OFF** times.



6720641900-24.1Wo



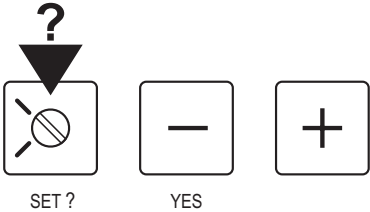
After pressing **SET?** for the 3rd **HW OFF** time the display shows **SET MON**, refer to the next section.

5.6.3 SETTING INDIVIDUAL WEEKDAYS

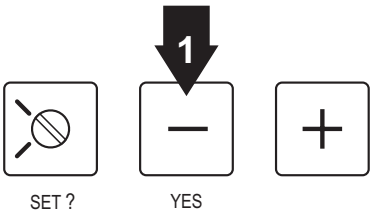


If you do not require individual weekday times, press **SET?** until **SET SAT - SUN** are displayed and continue with page 21

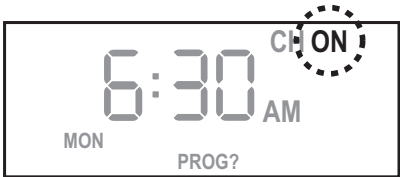
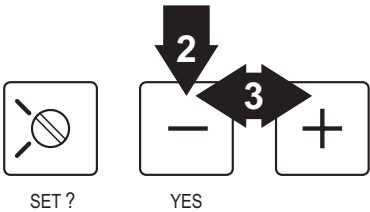
- If you do not wish to change the settings for the day displayed, then press **SET?** until the day you want to change is displayed.



5.6.4 SETTING CH INDIVIDUAL WEEKDAYS:



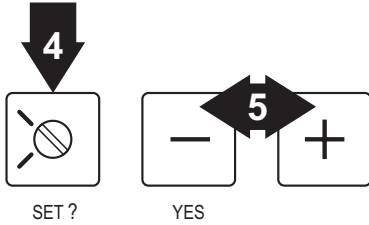
1. Press **YES** to select weekday.



2. Press **YES** to select **CH**
3. Press **PLUS** or **MINUS** to change the ON time.



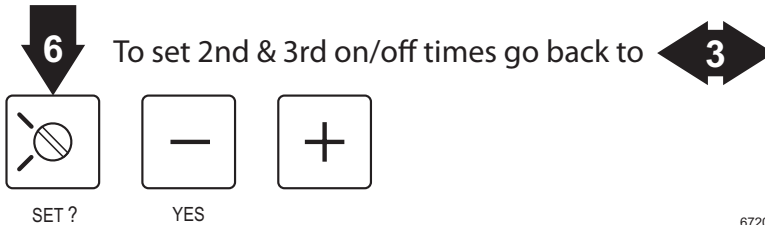
Hold down either the **PLUS** or **MINUS** button to speed up the display changes.



6720641900-28.1Wo

4. Press **SET?** to set the ON time and select the OFF time.

5. Press **PLUS** or **MINUS** to change the OFF time.



6720641900-29.1Wo

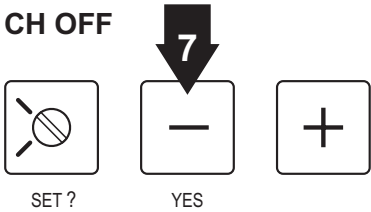
6. Press **SET?** to set the OFF time and select the next ON time.
Repeat operations 3 to 6 to set the 2nd and 3rd **CH ON/OFF** times.



After pressing **SET?** for the 3rd **CH OFF** time, the display shows **SET HW** for that weekday.

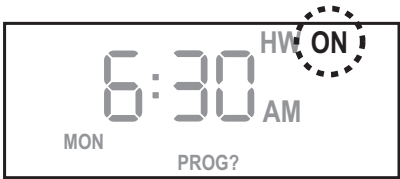
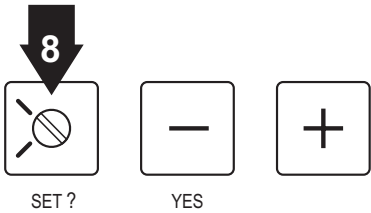
5.6.5 SETTING HW INDIVIDUAL WEEKDAYS

3rd CH OFF



6720641900-30.1Wo

7. Press **YES** to select the 1st ON time.
Repeat operations 3 to 6 to set the 1st, 2nd and 3rd **HW ON/OFF** times.



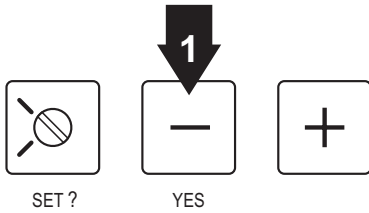
6720641900-31.1Wo

8. After pressing **SET?** for the 3rd **HW OFF** time **SET** and the next weekday are displayed.

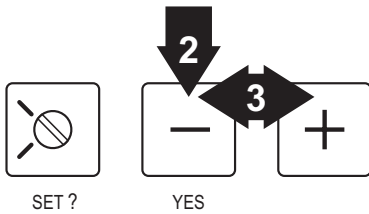


After completing the steps above for **FRI** the display shows **SET SAT SUN**, refer to next section.

5.6.6 SETTING CH SAT - SUN



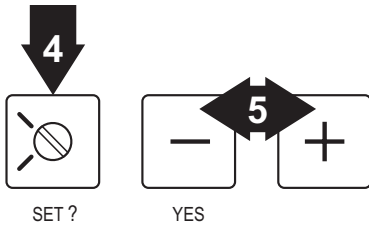
1. Press **YES** to select weekend.



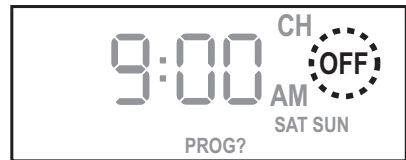
2. Press **YES** to select **CH**.



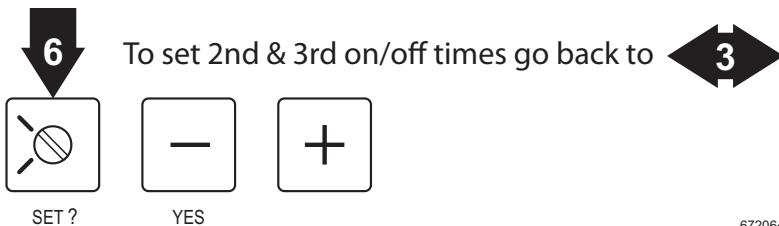
3. Press **PLUS** or **MINUS** to change the ON time.



4. Press **SET?** to set the ON time and select the OFF time.



5. Press **PLUS** or **MINUS** to change the OFF time.



6. Press **SET?** to set the OFF time and select the next ON time.
Repeat operations 3 to 6 to set the 2nd and 3rd **CH ON/OFF** times.

6720641900-35.1Wo



After pressing **SET?** for the 3rd **CH OFF** time, the display shows **SET HW SAT - SUN**.

5.6.7 SETTING HW SAT - SUN:

3rd CH OFF



SET ?

YES



SET ?

YES



6720641900-36.1Wo



6720641900-37.1Wo

7. Press **YES** to select the 1st ON time.
Repeat operations 3 to 6 to set the 1st, 2nd
and 3rd **HW ON/OFF** times.



After pressing **SET?** for the 3rd **HW OFF** time, the display shows **SET SAT**.

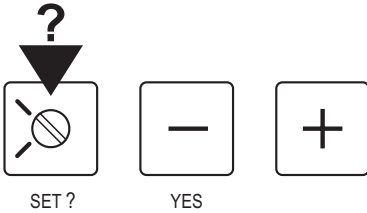
Refer to the next section.

If you do not require individual weekend times, press **SET?** until the normal display is resumed.

5.6.8 SETTING INDIVIDUAL WEEKEND DAYS:



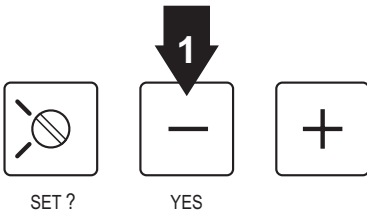
If you do not require individual weekend times, then press **SET?** until the normal display is shown



6720641900-38.1Wo

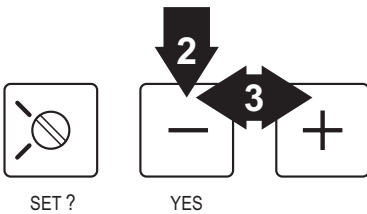
- If you do not wish to change the settings for **SAT**, then press **SET?** to move to **SUN**.

5.6.9 SETTING CH INDIVIDUAL WEEKEND DAYS



6720641900-39.1Wo

1. Press **YES** to select day displayed.

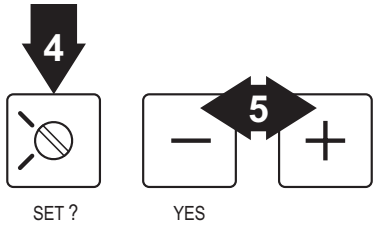


6720641900-40.1Wo

2. Press **YES** to select **CH**.
3. Press **PLUS** or **MINUS** to change the ON time.



Hold down either the **PLUS** or **MINUS** button to speed up the display changes.

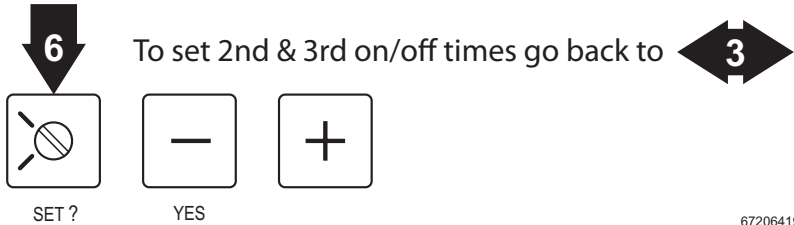


4. Press **SET?** to set the ON time and select the OFF time.



6720641900-41.1Wo

5. Press **PLUS** or **MINUS** to change the OFF time.



6720641900-42.1Wo

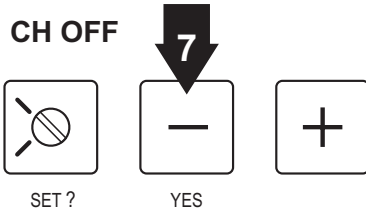
6. Press **SET?** to set the OFF time and select the next ON time.
Repeat operations 3 to 6 to set the 2nd and 3rd **CH ON/OFF** times.



After pressing **SET?** for the 3rd **CH OFF** time, the display shows **SET HW** for that day.

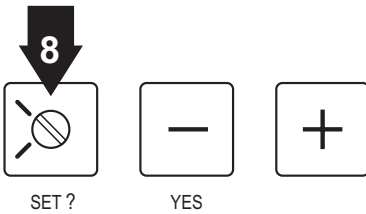
5.6.10 SETTING HW INDIVIDUAL WEEKEND DAYS

3rd CH OFF



6720641900-43.1Wo

7. Press **YES** to select the 1st ON time.
Repeat operations 3 to 6 to set the 1st, 2nd and 3rd **HW ON/OFF** times.

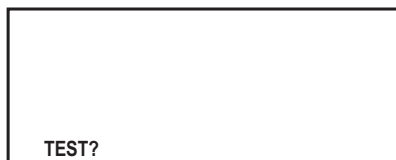
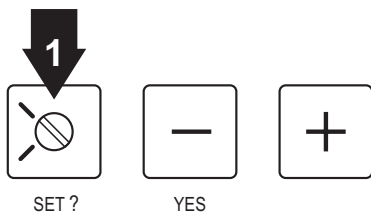


6720641900-44.1Wo



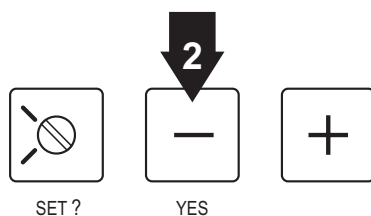
After completing the steps above, the display shows **TEST?**.
Refer to the next section to check your **CH** and **HW** settings.
If you do not require to check the program settings, then press **SET?** until the normal program is displayed.

5.6.11 TESTING THE PROGRAMS



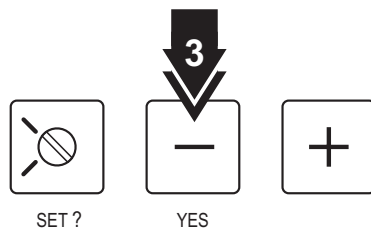
6720641900-45.1Wo

1. Press the **SET?** button until **TEST?** is displayed.



6720641900-46.1Wo

2. Press **YES** to enter the test program.



6720641900-47.1Wo

3. Press and hold down the **YES** button to continuously cycle through all the programmed ON and OFF times for each day of the week.

The display pauses when a set program time is shown with the **HOT WATER** and **CENTRAL HEATING** lights ON or OFF according to the program settings.

- To change the program settings, refer to **SETTING THE PROGRAMS.**
- Press the **SET?** button to return to the normal run mode.

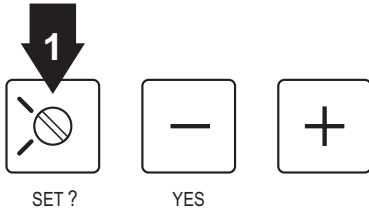


To temporarily stop the display advancing, release the **YES** button, then press **YES** again to continue.

5.6.12 SETTING HOLIDAYS



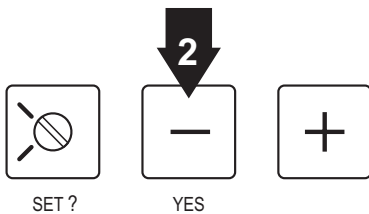
Ensure that the **SET?** button is unlocked before attempting any settings



1. Press the **SET?** button until **SET** and **HDAY?** is displayed.



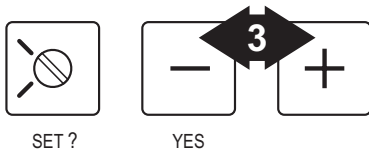
6720641900-48.1Wo



2. Press **YES**, the display shows **00**.



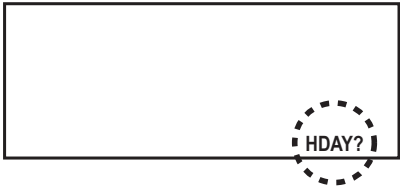
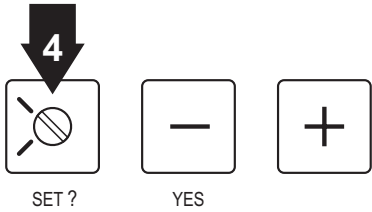
6720641900-49.1Wo



3. Press **PLUS** or **MINUS** to set the number of days you require the system to be off.



6720641900-50.1Wo



6720641900-51.1Wo

4. Press **SET?** and **HDAY** is displayed to show that there is no demand for heating from the programmer.



The program will return to normal operation after the set number of days.

- To cancel the holiday setting and return to normal operation, press any button.



The programmer counts any pass through midnight as one day. For example, if you do not want the heating ON from Saturday evening until Tuesday morning, set for three days.

6 MAINTENANCE AND SPARES

6.1 MAINTENANCE

- ▶ The programmer requires no maintenance.
- ▶ The outer casing can be wiped clean using a dry cloth, do not use polish or detergents.

6.2 SERVICING

- ▶ The unit cannot be serviced.
- ▶ Should the existing unit fail to function correctly, check that the times and program settings are correct.

6.3 REPLACEMENT PARTS

- ▶ Twin channel digital programmer replacement spare parts number: 7 716 192 007 0

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